

Failure and Anomaly Data Generation

Previous approach that didn't work: Run Stress-NG as CNF, and load stressing as much as possible.

Category	Details	
Cloud*	Kubernetes-cluster	
Workload	Nginx, vRouter, ...	
Traffic-Generators	iperf, netperf, wrk2, trex/prox (sriov)	
Impairment-Tool	Litmus	
Types of Impairments Steven Casey : Run experiments one at a time	<u>POD Level</u> Container Kill Disk Fill Pod Autoscaler Pod CPU Hog Exec Pod CPU Hog Pod Delete Pod Dns Error Pod Dns Spoof Pod IO Stress Pod Memory Hog Exec Pod Memory Hog Pod Network Corruption Pod Network Duplication Pod Network Latency Pod Network Loss Pod Network Partition	<u>NODE Level</u> Docker Service Kill Kubelet Service Kill Node CPU Hog Node Drain Node IO Stress Node Memory Hog Node Restart Node Taint
Metrics	1. Infrastructure 2. TGen (analyze the impact of Impairments), Litmus-data. 3. CNF - External (kubelet) 4. CNF - Internal (this is not feasible in many cases) *** If CN-CNF it is supposed expose metrics (/metrics) (micro-services approach)	
Metrics-Collection	Prometheus	
Logs/Events	Kubernetes System	
Logs-Collection	Elasticsearch	
Pod	Intel Pod18 (3-Master Nodes and 2 Worker Nodes)	
Duration	14 Feb - 28th Feb 2022 (It may get delayed to Intel VPN Issues.)	